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### **REMARKS**

#### **Pending Claims**

Claims 1, 2, 8, 9 and 20 have been amended in order to expedite the prosecution of this application. In particular, in claim 1, the phrase "comprising a pigment" in line 1 as well as the term "comprises" in line 4 have been deleted. In addition, in claims 2, 8, 9, and 20 the phrase "substituted or unsubstituted" has been deleted. No new matter has been added. Claims 1-27 and 29-31 are pending in the present application.

#### **Rejection under 35 U.S.C. § 112, Second Paragraph**

The Examiner has rejected claims 1-27 and 29-31 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

On pages 2-3 of the Office Action, the Examiner states that the phrases "product comprising" and "pigment comprises" are recited in claim 1, which the Examiner views as vague and indefinite. The Examiner states that the term "comprising" means that the product or the pigment may contain many additional components while the expression "a pigment product" would mean a single product. The Examiner further states that the phrases "X is a substituted", "R is substituted", and "R represents a substituted" are recited, which the Examiner views as vague and indefinite because the claim does not elaborate on what groups are substituted into the specified variables.

Regarding claim 1, Applicant believes that the use of the term "comprising" relating to the pigment and pigment product is not vague and is appropriate since it is well understood in the art that a pigment is material that may contain various additional components along with the specific colorant species. However, in order to advance the prosecution of this application, Applicant has amended this claim by deleting the phrase "pigment product comprising" from

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line 1 and the term "comprising" from line 4 of claim 1. Applicant therefore respectfully requests that this rejection be withdrawn.

Regarding claims 2, 8, and 20, Applicant believes that the terms "substituted" and "unsubstituted" relating to various aromatic or alkyl type groups is commonly used and would be clear and well-understood in the art. However, since the terms "alkyl group", "aromatic group", "aryl group", "arylene group", and "alkylene group" recited in these claims would be understood by one skilled in the art to include both substituted as well as unsubstituted groups, in order to advance the prosecution of this application, Applicant has amended claims 2, 8, and 20 by deleting the phrase "substituted or unsubstituted". Since the same phrase is recited in claim 9, this claim has been similarly amended. Applicant therefore respectfully requests that this rejection be withdrawn.

#### **Rejection under 35 U.S.C. § 103(a)**

The Examiner has rejected claims 1, 21-22, and 24-27 as being unpatentable over Belmont et al. (U.S. Patent No. 5,571,311).

On page 4 of the Office Action, the Examiner states that Belmont et al. teaches a pigment such as carbon black having attached at least one organic group substituted with an ionic or an ionizable functional group having at least an amphiphilic group, such as a quaternary ammonium or phosphonium group. The Examiner further states that the organic group attached to the carbon black can be at least one aromatic group substituted with one branched C1-C12 alkyl group. The Examiner notes that various applications are described, including inkjet inks.

The Examiner also states that the present invention differs from Belmont et al. in that the claimed steric group is unspecified. However, concerning this lack of a described steric group, the Examiner states that Belmont et al. describes that the organic group can be at least one aromatic group substituted with one branched C1-C12 alkyl group. The Examiner infers from this that the bulky group such as the aromatic group can be used as either the organic group or the steric group depending on the choice of the skilled artisan. The Examiner therefore

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concludes that, if the skilled artisan had desired to formulate the pigment product containing the steric group attached to the pigment, it would have been obvious to the skilled artisan to be motivated to use the substituted aromatic compound of Belmont et al. as the organic group having the steric group in the Belmont et al. modified carbon black.

Applicant respectfully disagrees. Regarding claim 1 of the present invention, this claim recites a pigment product comprising a pigment having attached a) at least one steric group and b) at least one organic ionic group with at least one amphiphilic counterion. The counterion has a charge opposite to that of the organic ionic group. Thus, there are two different types of attached groups for the pigment product of the present invention.

By comparison, Belmont et al. relates to aqueous inkjet ink compositions comprising a carbon black product having attached at least one organic group, wherein the organic group comprises at least one ionic group, at least one ionizable group, or a mixture thereof. Two types of groups comprising ionic and/or ionizable groups are disclosed, one comprising an aromatic group and one comprising a C1-C12 alkyl group. The aromatic or alkyl groups are directly attached to the pigment (see column 5, lines 24-26 as well as the abstract and claims 1, 19, 22, and 24). However, whether the organic group comprises a C1-C12 alkyl group or an aromatic group, the organic group of Belmont et al. must comprise an ionic and/or ionizable group.

Thus, Belmont et al. describes a carbon black product having one type of attached organic group. This would be similar to the "organic ionic group" recited in claim 1. However, there is no disclosure, teaching or suggestion in Belmont et al. that such an organic ionic group can or should be used in combination with a second, different type of group and, in particular, a steric group. As described in the present application, a steric group is one having "the ability to be steric or promoting steric hindrance" (see page 5, lines 27-28), and various specific preferred chemical structures are disclosed throughout the specification to further exemplify groups having this "steric" property. None of these groups, or any other types of steric groups, are shown in Belmont et al.

Furthermore, while organic groups having ionic and/or ionizable groups are described in Belmont et al., there is no disclosure, teaching or suggestion of an ionic group having an

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amphiphilic group, as recited in present claim 1. As described in the present application, the term "amphiphilic group" refers to a group "having a hydrophilic polar 'head' and a hydrophobic organic 'tail' " (see page 11, lines 7-8). The counterion may be "cationic or anionic in nature" (see page 11, lines 8-9), and a large number of specific structures are shown in order to exemplify groups having this "amphiphilic" property (see page 11, line 7 to page 13, line 10). Amphiphilic counterions are not described in Belmont et al. Applicant notes that the section of Belmont et al. cited by the Examiner (column 5, lines 59-60) do not relate to a carbon black having attached at least one organic group substituted with an ionic or ionizable function group having at least one amphiphile, such as a quaternary ammonium or quaternary phosphonium group. This refers to an embodiment of Belmont et al. in which the organic group comprises a cationic group. This is not an amphiphilic counterion.

Therefore, Applicant believes that claim 1 is patentable over Belmont et al. since this reference does not disclose, teach, or suggest either an organic ionic group having an amphiphilic counterion or the use of two different types of attached organic groups, especially a steric group.

Regarding claim 21, this claim recites an ink composition comprising at least one pigment product of claim 1. Since, as discussed above, Applicant believes Belmont et al. does not disclose, teach, or suggest the pigment product of claim 1, Applicant further believes that there is no disclosure, teaching, or suggestion of an ink composition comprising such a pigment product.

Therefore, Applicant believes that claim 21 is also patentable over Belmont et al. Claims 22 and 24-27, which depend directly from claim 21, recite further embodiments of the present invention and, for at least the reasons discussed above, are also patentable over this references.

Applicant therefore believes that claims 1, 21-22, and 24-27 are patentable over Belmont et al. and respectfully requests that this rejection be withdrawn.

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**Conclusions**

In view of the foregoing remarks, Applicant believes that this application is in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would further expedite the prosecution of the subject application, the Examiner is invited to call the undersigned.

Respectfully submitted,

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